

WHAT IS CLAIMED IS:

1. An isolated polynucleotide comprising a member selected from the group consisting of:

(a) a polynucleotide encoding the polypeptide as set forth in Figure 1.

(b) a polynucleotide encoding the polypeptide expressed by the DNA contained in ATCC Deposit No. \_\_\_\_;

(c) a polynucleotide capable of hybridizing to and which is at least 70% identical to the polynucleotide of (a); and

(d) a polynucleotide fragment of the polynucleotide of (a) or (b).

2. The polynucleotide of Claim 1 encoding the polypeptide as set forth in Figure 1.

3. The polynucleotide of Claim 1 wherein said polynucleotide encodes a mature polypeptide expressed by the DNA contained in ATCC Deposit No. \_\_\_\_.

4. A vector containing the polynucleotide of Claim 1.

5. A host cell transformed or transfected with the vector of Claim 4.

6. A process for producing a polypeptide comprising: expressing from the host cell of Claim 5 the polypeptide encoded by said polynucleotide.

7. A process for producing cells capable of expressing a polypeptide comprising transforming or transfecting the cells with the vector of Claim 4.

8. A receptor polypeptide selected from the group consisting of:

(i) a polypeptide having the deduced amino acid sequence of Figure 1 and fragments, analogs and derivatives thereof; and

(ii) a polypeptide encoded by the cDNA of ATCC Deposit No. \_\_\_\_\_ and fragments, analogs and derivatives of said polypeptide.

9. The polypeptide of claim 8 wherein the polypeptide has the deduced amino acid sequence of SEQ ID NO:2.

10. An antibody against the polypeptide of claim 8.

11. A compound which activates the polypeptide of claim 8.

12. A compound which inhibits activation the polypeptide of claim 8.

13. A method for the treatment of a patient having need to activate a PTH receptor comprising: administering to the patient a therapeutically effective amount of the compound of claim 11.

14. A method for the treatment of a patient having need to inhibit a PTH receptor comprising: administering to the patient a therapeutically effective amount of the compound of claim 12.

15. The method of claim 13 wherein said compound is a polypeptide and a therapeutically effective amount of the compound is administered by providing to the patient DNA encoding said agonist and expressing said agonist in vivo.

16. The method of claim 14 wherein said compound is a polypeptide and a therapeutically effective amount of the

compound is administered by providing to the patient DNA encoding said antagonist and expressing said antagonist *in vivo*.

17. A method for identifying compounds which bind to and activate the receptor polypeptide of claim 8 comprising:

contacting a cell expressing on the surface thereof the receptor polypeptide, said receptor being associated with a second component capable of providing a detectable signal in response to the binding of a compound to said receptor polypeptide, with a compound under conditions sufficient to permit binding of the compound to the receptor polypeptide; and

identifying if the compound is capable of receptor binding by detecting the signal produced by said second component.

18. A method for identifying compounds which bind to and inhibit activation of the polypeptide of claim 8 comprising:

contacting a cell expressing on the surface thereof the receptor polypeptide of claim 8, said receptor being associated with a second component capable of providing a detectable signal in response to the binding of a compound to said receptor polypeptide, with an analytically detectable ligand known to bind to the receptor polypeptide and a compound to be screened under conditions to permit binding to the receptor polypeptide; and

determining whether the compound inhibits activation of the polypeptide by detecting the absence of a signal generated from the interaction of the ligand with the polypeptide.

19. A process for diagnosing in a patient a disease or a susceptibility to a disease related to an under-expression of the polypeptide of claim 8 comprising:

determining a mutation in the nucleic acid sequence encoding the polypeptide of claim 8 in a sample derived from a patient.

20. A diagnostic process comprising:

analyzing for the presence of the polypeptide of claim 8 in a sample derived from a host.